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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/849,579	05/20/2004	Gerald C. DiPiazza	Tyco.005	6347
7590 09/21/2009 Tyco Technology Resources Suite 140 4550 New Linden Hill Road Wilmington, DE 19808-2952				
EXAMINER STEPHEN EMEM O				
ART UNIT 2617		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/849,579

Applicant(s)

DIPIAZZA, GERALD C.

Examiner

EMEM STEPHEN

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06/10/2009.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 and 28 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 1-22 is/are allowed.
6) ☒ Claim(s) 23-26 and 28 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 20 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to the claims 23-26 and 28 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

2. Claims 1 and 3-22 are allowed.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: last line of claim 23 recites "the communication module" without specifying which of the communication module is being referred to.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over US Pub. 20040219924 A1 to Flynn in view of US Pub. No. 2005/0213527 A1 to Xie.

Regarding claim 23, Flynn discloses a communication system comprising: a first communication module mountable to a side of an outside surface of a building; and a second communication module mountable to the side of the outside surface of the building on a different level of the building (par. 48 hosing 104 for antenna 102 is mounted to the side of the building, and par. 58 hosing 104 for antenna placed at a different height on the side of building 402) and the second communication module is configured to: receive radio signals from and transmit radio signals to the first communication module (see figs. 2A, and 4, and pars. 39, and 56 communication line 118); however, Flynn fails to disclose receive radio signals from and transmit radio signals using an outward facing array of the second communication module, the radio signals propagated at least one of substantially upward and substantially downward along the outside surface of the building; transmit the radio signals into the building using an inward facing array of the communication module.

Xie discloses receive radio signals from and transmit radio signals using an outward facing array (see fig. 1B, and par. 51, i.e. radiation direction of lobe 6) of the second communication module, the radio signals propagated at least one of substantially upward (pars. 54-55, and 103, upward coverage by up-tilt antenna 10) and

substantially downward (downward coverage by down-tilt antenna 1) along the outside surface of the building (along vertical plane, high rise building 20,); transmit the radio signals into the building using an inward facing array of the communication module(par. 7, cellular phone inside the building receives signal within the coverage region).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Flynn, and have the radio signal such that the radio waves communicating the radio signal propagate at least one of substantially upward and downward along the outside of the building as disclosed by Xie for the purpose of enhancing coverage.

7. **Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Flynn in view of Xie, and further in view of Yarkosky, and further in view of Takatori.

Regarding claim 24, the combination of Flynn and Xie discloses the apparatus and method of claim 23, however, the combination fails to disclose wherein the radio signal carries at least one of an up-converted mobile communication signal, an up-converted and an down-converted legacy wireless communication signal.

In a similar endeavor, Yarkosky discloses wherein the radio signal carries at least one of an up-converted mobile communication signal, an up-converted and a down-converted legacy wireless communication signal (col. 6 lines 42-48, down convert and up convert downlink signal).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination, and have the radio signal carries at

least one of an up-converted mobile communication signal, an up-converted and a down-converted legacy wireless communication signal as taught by Yarkosky for the purpose of using compatible communication signal in communication.

However, the combination fails to disclose a millimeter wave radio signal.

Takatori discloses a millimeter wave radio signal (col. 2 lines 54-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination, and have a millimeter wave radio signal as taught by Takatori for the purpose of increasing transfer speed of wireless communication (col. 2 lines 1-14).

8. **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over U S Pat. 6202799 B1 to Drop in view of U S Pub. 2004/0198386 A1 to Dupray, and further in view of Flynn.

Regarding claim 25, Drop discloses a method comprising: receiving at a first communication module (transponder 21 on floor 16) a radio signal transmitted from a second communication module (transponder 21 on floor 17), wherein the first and second communication module are mounted to the side of a building at different elevations(see figure 2), encoding the radio signal with a predetermined code based on the elevation from which the signal was transmitted (col. 2 lines 50-51) and transmitting the radio signal into the building based on the predetermined code such that the communication flow of the radio signal between different elevations is determined based on the predetermined code (see fig. 2, claim 19, transponders 22 is located inside the

elevator are interconnected with transponders 21, and a dispatching controller 23 located inside the building 15). However, Drop fails to disclose services priorities.

Dupray discloses services priorities (pars. 38, 620, 652, and 672).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Drop, and have the signal encoded with services priorities as disclosed by Dupray for the purpose of using the encoded signal in determining the classification of a message signal.

However, the combination fails to specify wherein the first and second communication modules are mounted to an outside of a building at different elevations.

Flynn discloses receiving at a first communication module a radio signal transmitted from a second communication module (see fig. 2A, communication line 118, and par. 39), wherein the first and second communication modules are mounted to an outside of a building at different elevations (par. 48 housing 104 for antenna 102 is mounted to the side of the building, and par. 58 housing for antenna placed an different height of building 402).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination with the disclosure of Flynn for the purpose of enhancing wireless coverage.

9. **Claims 26, and 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Drop in view of Dupray, and further in view of Yarkosky, and further in view of Flynn, and further in view of Takatori.

Regarding claims 26, and 28, the combination of O'Neill, Dupray, and Flynn discloses the apparatus and method of claim 25, wherein the signal includes an indication of a floor of the building from which the signal was transmitted (Dupray, pars. 30, 92, 236, and 349), however, the combination fails to disclose wherein the radio signal carries at least one of an up-converted mobile communication signal, an up-converted and an down-converted legacy wireless communication signal.

In a similar endeavor, Yarkosky discloses wherein the radio signal carries at least one of an up-converted mobile communication signal, an up-converted and a down-converted legacy wireless communication signal (col. 6 lines 42-48, down convert and up convert downlink signal).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination, and have the radio signal carries at least one of an up-converted mobile communication signal, an up-converted and an down-converted legacy wireless communication signal as taught by Yarkosky for the purpose of transmission through a building.

However, O'Neil, Dupray, Flynn, and Yarkosky fail to disclose a millimeter wave radio signal.

Takatori discloses a millimeter wave radio signal (col. 2 lines 54-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination, and have a millimeter wave radio signal as taught by Takatori for the purpose of increasing transfer speed of wireless communication.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **EMEM STEPHEN** whose telephone number is 571 272 8129. The examiner can normally be reached on 8-5 Mon-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on 571 272 7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/EMEM STEPHEN/
Examiner, Art Unit 2617
09/16/2009

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617